

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**Docket Number  
(Optional)

MOMO3001D

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

Application Number Filed

10/735,614 12/16/2003

First Named Inventor

Signature	Itaru MOMOKI et al.	
Typed or printed name	Art Unit	Examiner

3652 D. Underwood

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- applicant/inventor.
- assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)
- attorney or agent of record.  
Registration number 25,814
- attorney or agent acting under 37 CFR 1.34.

Signature

George A. Loud

Typed or printed name

703-683-0500

Telephone number

November 30, 2005

Date

Registration number if  
acting under 37 CFR  
1.34

Bacon & Thomas, PLLC, Customer No. 23364

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.

Submit multiple forms if more than one signature is required, see below\*.

- \*Total of forms are submitted.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: ) Confirmation No. 2725  
Itaru MOMOKI et al. )  
Serial No.: 10/735,614 ) Group Art Unit: 3652  
Filed: December 16, 2003 ) Examiner: Donald W. Underwood  
For: SUBSTRATE CONVEYOR ROBOT )

ARGUMENTS IN FAVOR OF REVERSAL OF REJECTION AND ALLOWANCE AT  
PRE-APPEAL BRIEF CONFERENCE

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

INTRODUCTORY REMARKS

This paper accompanies a PRE-APPEAL BRIEF REQUEST FOR REVIEW (PTO/SB/33). The arguments herein are in response to the final action of June 9, 2005 finally rejecting claims 5 and 6, the only pending claims. A Notice of Appeal is submitted concurrently herewith along with the appropriate fee.

## ARGUMENT

1. There is no motivation to combine the references in the manner adopted by the Examiner.

At the top of page 3 of the Final Rejection the Examiner writes:

"It would have been obvious to provide a rotatable base and first motor inside a body portion in Bacchi similar to that in Uehara in view of the teaching in Poduje to provide a single arm with a theta drive".

The above quoted statement begs the issue. Why would one skilled in the art have found it desirable to provide Bacchi et al. '113 with such a theta drive?

The prior art is described by Bacchi et al. as including a theta drive (column 1, lines 39-41). Indeed, both the applicant (see pages 1-3 of applicant's original specification) and Bacchi et al. describe prior art robot arms with theta drives as embodying the problems to which their respective inventions are directed. In this sense, the Examiner's Uehara and Poduje secondary references are merely cumulative with the prior art or related art described by Bacchi et al. and by applicant which prior art devices are all cylindrical-coordinate type robots. Uehara and Poduje transfer a workpiece only along a straight line extending radially from the center (Z axis) of their robots. Accordingly, there is the problem that these robots can not insert and remove the workpiece to and from a cassette when the cassette's aperture does not face the center of these robots, that is, a nonradially positioned cassette.

Bacchi et al. '113 overcame the problems with the prior art by changing the operative principle. In Abbe et al., Genov et al., cited as background by Bacchi, and in Uehara '647 and Poduje '280, applied here as secondary references, the extension and retraction of the robot arm is driven by a single motor (cylindrical-coordinate type robots). In contradistinction, the operating principle of Bacchi '113 (scalar-type robot), as explained, for example, at column 2, lines 42-27 and at column 3, lines 3-18 of the Bacchi specification, is to employ first and second motors for independent control of different links of the same robot arm, thereby allowing the extending-contracting angles between the links to differ from each other, which difference is translated to "linear

displacement of the hand" (column 3, lines 9-15). It is respectfully submitted that it would not have been obvious to go backwards, to look to prior art of the type Bacchi et al. '113 regarded as embodying the problem to which their invention is directed.

A scalar-type robot such as Bacchi et al. '113 adds a third control axis in addition to the two control axes  $\theta$  and JO (R), as taught by applicant in his original specification at page 2, line 22 to page 3, line 19, with reference to Japanese Kokai 11-33948. The objective of the present invention is to avoid the complication of the third control axis of a scalar-type robot. See page 5, lines 10-15 and page 17, lines 14-20 of applicant's original specification. Accordingly, the operative principle of the present invention differs from that of a scalar-type robot such as Bacchi et al. '113.

## 2. The hypothetical modification of Bacchi does not lead to the present invention.

Even if it were *prima facie* obvious to provide the robot arm of Bacchi '113 with a theta drive, the result would not be the present invention.

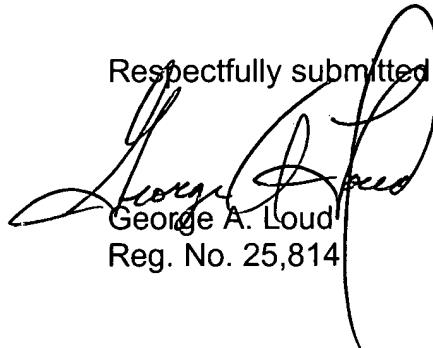
### Second Spindle

The Examiner identifies "post" 60 of Bacchi '113 (column 4, lines 45-50) as meeting the recitation of "a second spindle" in applicant's claim 5. However, post 60 of Bacchi does not meet the definition of a "second spindle" as recited by claim 5 here because claim 5 defines the second spindle as "mounted on a second end of the first arm for rotation independent of the rotation of the first arm." In contradistinction, post 60 of Bacchi is integral with "upper arm 14". Because post 60 is fixed to arm 14, it cannot rotate "independent of the rotation of the first arm" as recited by claim 5 here.

### First rotation transfer means

The Examiner identifies elements 58, 68, and "the pulley attached to the lower end of 60" in Bacchi as meeting the recitation of "first rotation transfer means" of claim 5 here. However, claim 5 defines the "first rotation transfer means" as transferring rotation of the first arm to the second spindle. As noted above, in Bacchi '113, what the Examiner identifies as the second spindle (post 60), does not rotate.

For the foregoing reasons, it is respectfully submitted that the final rejection should be withdrawn and claims 5 and 6 should be allowed.

Respectfully submitted,  
  
George A. Loud  
Reg. No. 25,814

Dated: November 30, 2005